AMENDMENTS TO THE CLAIMS

Please add new claims 19 and 20, as follows:

1. (Previously Presented) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

a tapered interface between the rod and the piston to thereby align the rod relative to the piston;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between an open position, a closed position, and at least one position intermediate the open and closed positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input;

wherein the tapered interface provides a fluid tight seal.

2. (Original) The suspension damper of claim 1 wherein the tapered interface further comprises:

a shoulder on a portion of the rod; and

a confronting surface on a portion of the piston proximate the shoulder.

3. (Original) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

a resistance welded interface between the rod and the piston;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input;

wherein the resistance welded interface provides a fluid tight seal.

4. (Original) The suspension damper of claim 3 wherein the resistance well interface is tapered.

5. (Original) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

a threaded interface between the rod and the piston;

a snap ring proximate the threaded interface to align the rod relative the piston;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input; and

a sealant at the threaded interface to provide a fluid tight seal between the rod and the piston.

6. (Original) A suspension system for a vehicle comprising:

a pneumatic suspension sub-system selected from at least one of the following: a vehicle air-suspension system and a vehicle air-leveling system, the pneumatic suspension sub-system generating an air pressure value as a function of a weight of the vehicle and a condition of the road on which the vehicle travels;

at least one damper comprising:

(a) a cylinder defining a cavity being substantially filled with a fluid;

(b) a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

(c) a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

(d) an interface between the rod and the piston to thereby provide a fluid tight seal;

(e) a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

(f) an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression

chambers;

wherein a damping force of the suspension damper is a function of the air pressure input.

7. (Original) The suspension system of claim 6 wherein the interface between the rod and the piston further comprises:

a tapered interface region between the rod and the piston to thereby align the rod relative to the piston and provide the fluid tight seal.

8. (Original) The suspension system of claim 7 wherein the tapered interface region further comprises:

a shoulder on a portion of the rod; and

a confronting surface on a portion of the piston proximate the shoulder.

9. (Original) The suspension system of claim 6 wherein the interface between the rod and the piston further comprises:

a resistance weld between the rod and the piston.

10. (Previously Presented) A suspension system for a vehicle comprising:

a pneumatic suspension sub-system selected from at least one of the following: a vehicle air-suspension system and a vehicle air-leveling system, the pneumatic suspension sub-system generating an air pressure value as a function of

a weight of the vehicle and a condition of the road on which the vehicle travels;

at least one damper comprising:

(a) a cylinder defining a cavity being substantially filled with a fluid;

(b) a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

(c) a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

(d) an interface between the rod and the piston to thereby provide a fluid tight seal;

wherein the interface between the rod and the piston a threaded coupling between the rod and the piston;

a snap ring proximate the threaded coupling to align the rod relative the piston; and

a sealant at the threaded coupling to provide the fluid tight seal between the rod and the piston;

(e) a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

(f) an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chamber;

wherein a damping force of the suspension damper is a function of the air pressure input.

11. (Previously Presented) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston assembly slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston assembly and extending through one of the chambers and exiting the cavity;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston assembly in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between an open position, a closed position, and at least one position intermediate the open and closed positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input; and

a uni-directional seal plate mounted in the piston assembly and in communication with the air pressure actuated control valve assembly;

wherein the uni-directional seal plate is adapted for mounting in the piston assembly in a predetermined orientation.

12. (Original) The damper of claim 11 wherein the uni-directional seal plate further comprises:

a step extending around a perimeter thereof.

13. (Previously Presented) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston assembly slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston assembly and extending through one of the chambers and exiting the cavity;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston assembly in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input; and

a uni-directional seal plate mounted in the piston assembly and in communication with the air pressure actuated control valve assembly;

wherein the uni-directional seal plate is adapted for mounting in the piston assembly in a predetermined orientation and includes a step extending around a perimeter thereof;

wherein the piston assembly includes a piston adapter having an annular lip crimped onto the step of the uni-directional seal plate.

14. (Original) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston assembly slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston assembly and extending through one of the chambers and exiting the cavity;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston assembly in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the

air pressure;

a piston adapter having an annular lip crimped onto a portion of the air pressure actuated control valve assembly.

15. (Original) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston assembly slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston assembly and extending through one of the chambers and exiting the cavity;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston assembly in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure;

a biasing member urging the air pressure actuated control valve assembly toward a closed position;

a retainer coupled to the biasing member to thereby secure the retainer

relative to the biasing member.

16. (Original) The suspension damper of claim 15 wherein the biasing member is a spring.

17. (Original) The suspension damper of claim 15 wherein a portion of the suspension damper is deformed during assembly thereof to capture the retainer.

18. (Previously Presented) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

a tapered interface between the rod and the piston to thereby align the rod relative to the piston, the tapered interface comprising a frustoconical section formed on an outer surface of the rod and having an axis of revolution extending along a direction parallel to a longitudinal axis of the rod;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

an air pressure actuated control valve assembly responsive to an air

pressure input for adjustment to and between a plurality of positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input;

wherein the tapered interface provides a fluid tight seal.

19. (New) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston and extending through one of the chambers and exiting the cavity;

a tapered interface between the rod and the piston to thereby align the rod relative to the piston;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston in the cylinder; and

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and to maintain either an open position, a closed position, or at least one position intermediate the open and closed positions to control the movement of fluid in the passage between the extension and

compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input;

wherein the tapered interface provides a fluid tight seal.

20. (New) A suspension damper comprising:

a cylinder defining a cavity being substantially filled with a fluid;

a piston assembly slidably positioned in the cylinder separating the cavity into a compression chamber and an extension chamber;

a rod coupled to the piston assembly and extending through one of the chambers and exiting the cavity;

a passage through which the fluid moves between the extension chamber and the compression chamber during sliding of the piston assembly in the cylinder;

an air pressure actuated control valve assembly responsive to an air pressure input for adjustment to and to maintain either an open position, a closed position, or at least one position intermediate the open and closed positions to control the movement of fluid in the passage between the extension and compression chambers;

wherein a damping force of the suspension damper is a function of the air pressure input; and

a uni-directional seal plate mounted in the piston assembly and in

communication with the air pressure actuated control valve assembly;

wherein the uni-directional seal plate is adapted for mounting in the piston assembly in a predetermined orientation.